High speed thermal printhead (8 dots / mm)

NF2003-VA10A

The NF2003-VA10A is a flat thin-film thermal printhead capable of printing speeds up to 12 inch / second, and suited for general purpose compact printers as well as label printers.

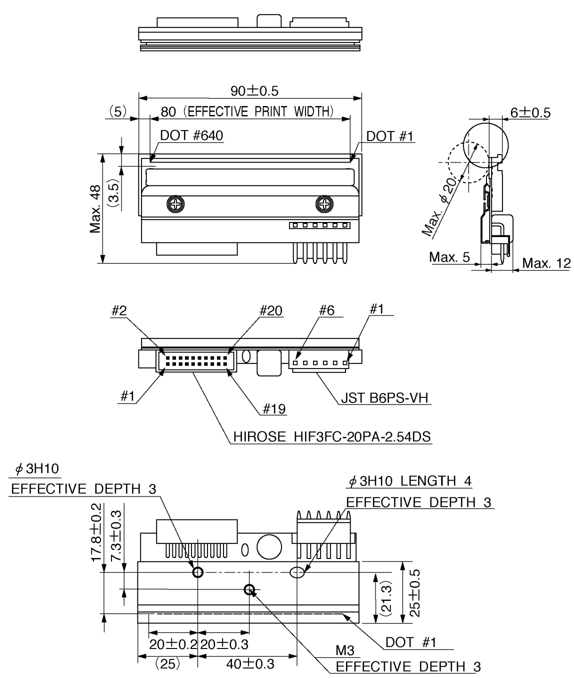
●Applications

Bar code label printers
Ticket printers
General purpose compact printers

●Features

1) Special glazed components for high speed, high quality printing.
2) High speed clock (10MHz) to facilitate external heat history control.
3) Using a hard conductive film as a protective film on the heating element offers excellent resistance to electrostatic damage.

●External dimensions (Units: mm)



Note: No heat history control function inside the thermal printhead. External heat history control is required for high speed printing.

●Characteristics

Parameter	Symbol	Typical	Unit
Effective printing width	—	80	mm
Dot pitch	—	0.125	mm
Total dot number	—	640	dots
Average resistance value	Rave	550	Ω
Applied voltage	V_H	24	V
Applied power	P_O	0.899	W / dot
Print cycle	SLT	0.98	ms
Pulse width	T_{ON}	0.267	ms
Maximum number of dots energized simultaneously	—	448	dots
Maximum clock frequency	—	10	MHz
Maximum roller diameter	—	20	mm
Running life / pulse life	—	50 / 10^8	km / pulses
Operating temperature	—	5～45	℃

●Pin assignments

HIROSE

No.	Circuit	No.	Circuit
1	V_{DD}	2	BEO
3	GND	4	DI2
5	N.C.	6	CLK
7	$\overline{LA}$	8	GND
9	GND	10	DI1
11	N.C.	12	GND
13	V_{DD}	14	$\overline{STB2}$
15	$\overline{STB1}$	16	TM
17	TM	18	SENS1
19	SENS2	20	SENS3

JST

No.	Circuit
1	VH
2	VH
3	VH
4	GND
5	GND
6	GND

●Timing chart

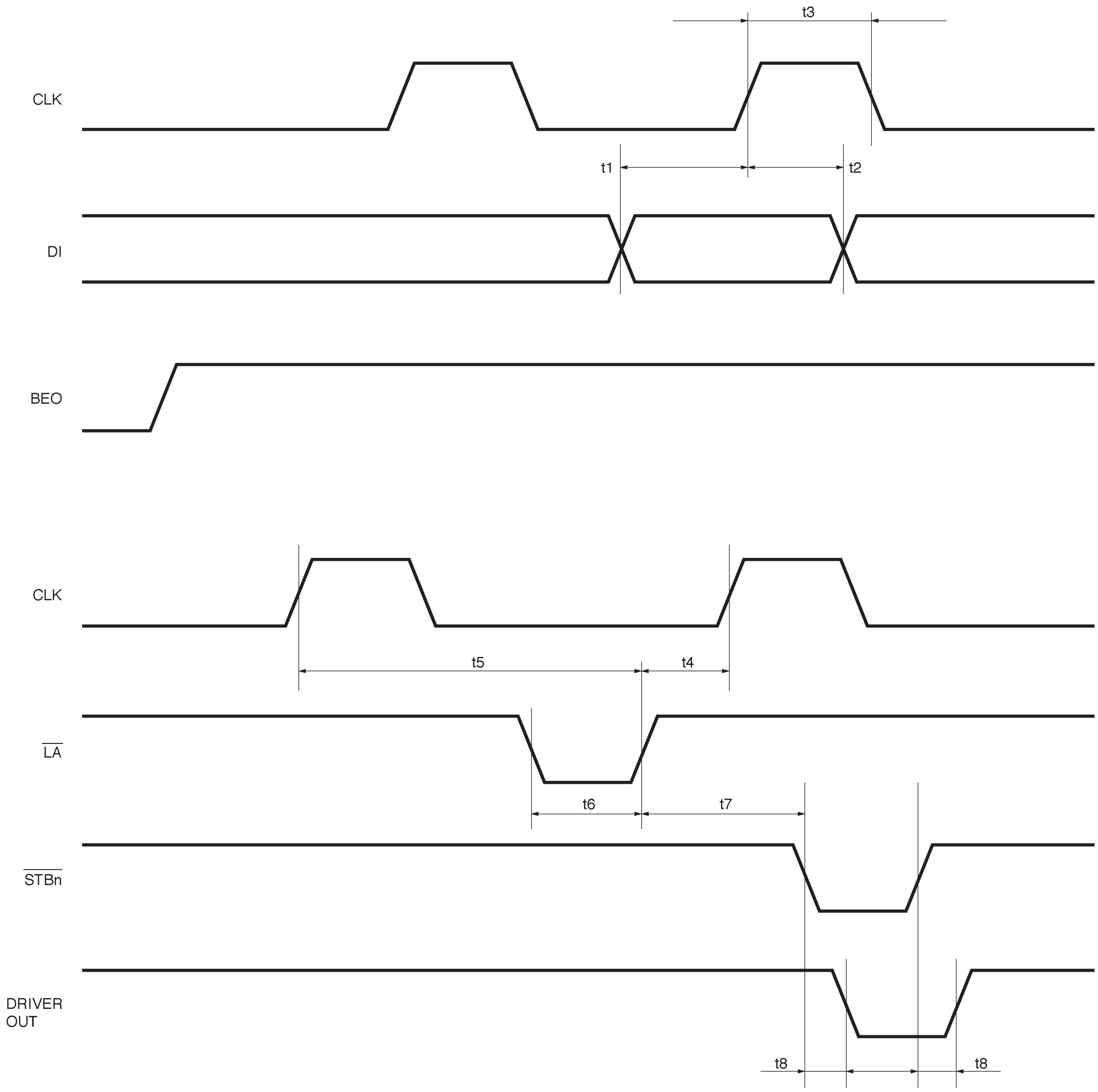
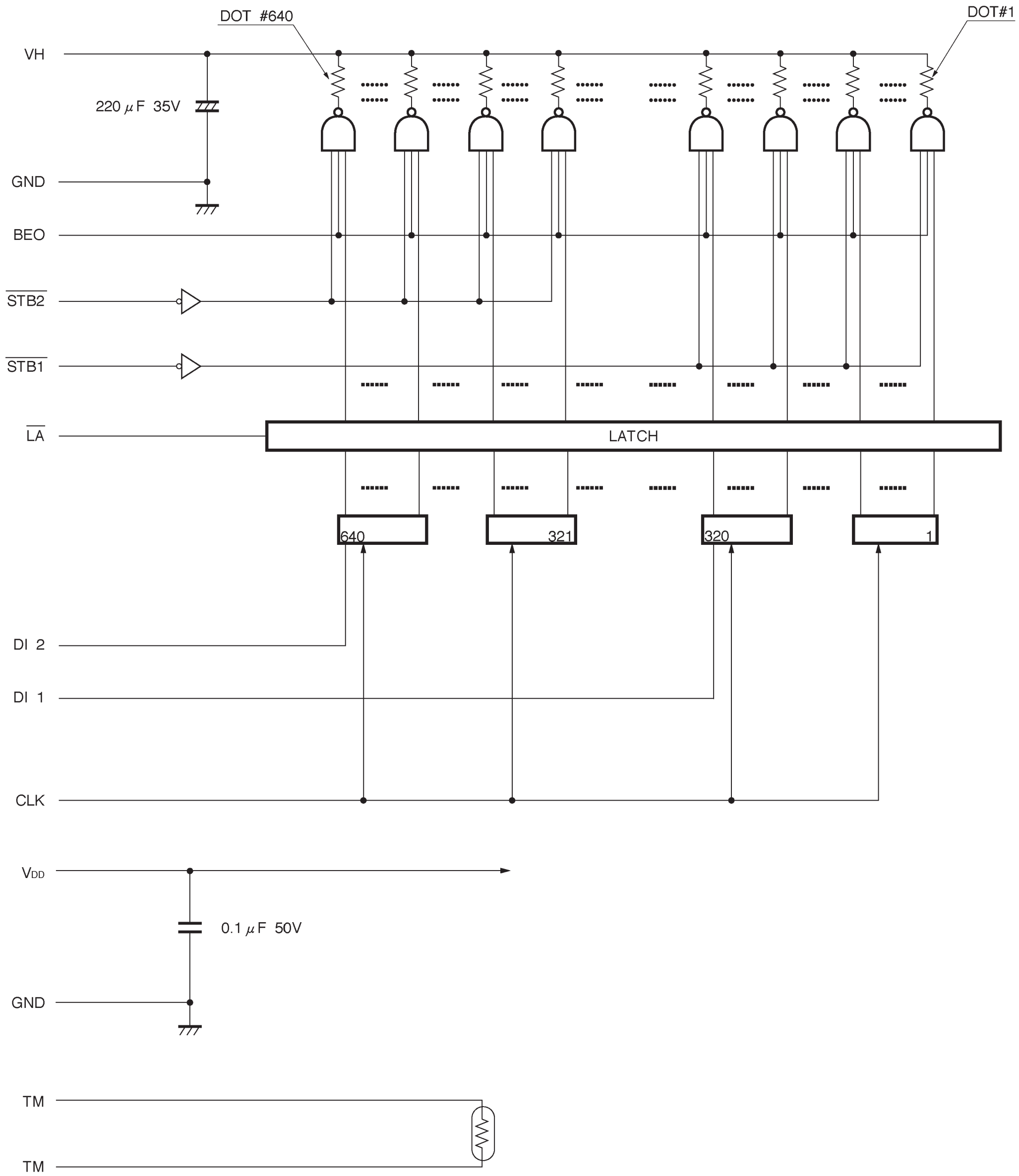


Fig.1

●Equivalent circuit

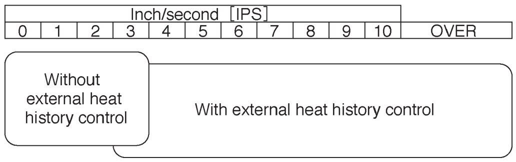


DI No.	DOT No.
DI 2	640～321
DI 1	320～ 1

$\overline{\text{STB}}$ No.	DOT No.
$\overline{\text{STB 2}}$	640～321
$\overline{\text{STB 1}}$	320～ 1

Fig. 2

●Supported speeds chart



●Electrical characteristic curves

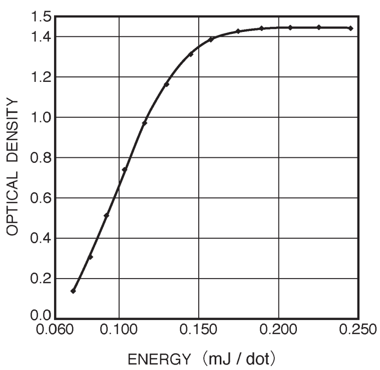


Fig. 3 Representative density curve

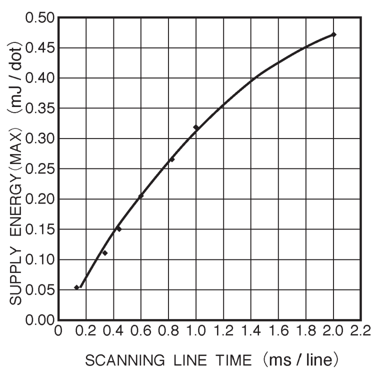


Fig. 4 Maximum energy curve

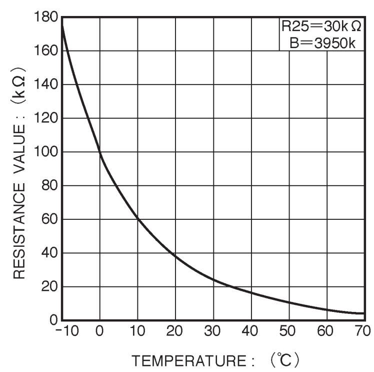


Fig. 5 Thermistor curve